



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/575,348	05/19/2000	Shoichi Ando	12052.33US01	1005

23552 7590 12/19/2002

MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

[REDACTED] EXAMINER

IP, SIKYIN

ART UNIT	PAPER NUMBER
----------	--------------

1742

DATE MAILED: 12/19/2002

17

Please find below and/or attached an Office communication concerning this application or proceeding.

S3

Office Action Summary	Application No.	Applicant(s)	
	Examiner	Group Art Unit	

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
 Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

Responsive to communication(s) filed on 9/30/02
 This action is FINAL.
 Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

Claim(s) 1, 2, 29, 30 is/are pending in the application.
 Of the above claim(s) _____ is/are withdrawn from consideration.
 Claim(s) _____ is/are allowed.
 Claim(s) 1, 2, 29, 30 is/are rejected.
 Claim(s) _____ is/are objected to.
 Claim(s) _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
 The proposed drawing correction, filed on _____ is approved disapproved.
 The drawing(s) filed on _____ is/are objected to by the Examiner.
 The specification is objected to by the Examiner.
 The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 All Some* None of the CERTIFIED copies of the priority documents have been
 received.
 received in Application No. (Series Code/Serial Number) _____.
 received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Attachment(s)

Information Disclosure Statement(s), PTO-1449, Paper No(s). _____ Interview Summary, PTO-413
 Notice of Reference(s) Cited, PTO-892 Notice of Informal Patent Application, PTO-152
 Notice of Draftsperson's Patent Drawing Review, PTO-948 Other _____

Office Action Summary

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: The words such as "spherodizing or spherodized" is misspelled throughout the specification. The conventional spelling of such words should be "spheroidizing" and "spheroidized", respectively.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
3. Claims 30 and 31 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
4. The meaning of the expression "spherodized martensitic structure on the surface thereof comprising ferrite and cementite" in claims 30 and 31 is unclear and not support by the specification as originally filed. The specification as originally filed in page 11, third full paragraph discloses "... quenching a blank unloaded from a

heating furnace to form a fine martensitic structure in a surface thereof, and then annealing the blank to convert the martensitic structure of the surface into a fine spherodized structure comprising ferrite and cementite."

Claim Rejections - 35 USC § 103

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-2 and 30-31 are rejected under 35 U.S.C. 103(a) as obvious over JP 07034190 or USP 4375378 to Ohtani et al.

8. The cited reference(s) disclose(s) the features including the claimed cold forging steel composition and microstructures. The features relied upon described above can be found in the reference(s) at: JP 07034190 (abstract, Example section [0034]- Table 3, samples No. 6 and 19) and Ohtani (col. 1, lines 51-64; col. 2, lines 55-61; and Tables 2 and 4). The difference between the reference(s) and the claims

are as follows: the cited references do not disclose the carbide aspect ratio and/or forging upsetting ratio. But, the claimed properties are material properties which would have been inherently possessed by the material. With respect to the upsetting rate that cited references examples show 85% (Tables 2 and 4 of Ohtani) and (87.8% in Table 3 of JP '190). When the 87.8 is rounded off, it is 90%. Furthermore, wire is plastically deformed from billet and wire would have more cumulated reductions than billet. It is well settled that a *prima facie* case of obviousness would exist where the claimed ranges and prior art do not overlap but are close enough that one ordinary skilled in the art would have expected them to have the same properties, *In re Titanium Metals Corporation of America v. Banner*, 227 USPQ 773 (Fed. Cir. 1985), *In re Woodruff*, 16 USPQ 2d 1934, *In re Hoch*, 428 F.2d 1341, 166 USPQ 406 (CCPA 1970), and *In re Payne* 606 F.2d 303, 203 USPQ 245 (CCPA 1979). To overcome the *prima facie* case, an applicant must show that there are substantial, actual differences between the properties of the claimed compound and the prior art compound. *Hoch*, 428 F.2d at 1343-44, 166 USPQ at 409.

Response to Arguments

9. Applicant's arguments filed September 30, 2002 have been fully considered but they are not persuasive.

10. Applicants argue that none of the cited references discloses billet has spheroidized carbide structure with upsetting ratio 90% or more. But, the references of record show the steels have the compositions overlapped the instant steel composition. And the limiting compression rate in the example is 87.8% which is rounded to 90%. A *prima facie* case of obviousness would exist where the claimed ranges and prior art do not overlap but are close enough that one ordinary skilled in the art would have expected them to have the same properties, *In re Titanium Metals Corporation of America v. Banner*, 227 USPQ 773 (Fed. Cir. 1985), *In re Woodruff*, 16 USPQ 2d 1934, *In re Hoch*, 428 F.2d 1341, 166 USPQ 406 (CCPA 1970), and *In re Payne* 606 F.2d 303, 203 USPQ 245 (CCPA 1979). To overcome the *prima facie* case, an applicant must show that there are substantial, actual differences between the properties of the claimed compound and the prior art compound. *Hoch*, 428 F.2d at 1343-44, 166 USPQ at 409.

Conclusion

The above rejection relies on the reference(s) for all the teachings expressed in the text(s) of the references and/or one of ordinary skill in the metallurgical art would have reasonably understood or implied from the text(s) of the reference(s). To emphasize certain aspect(s) of the prior art, only specific portion(s) of the text(s) have been pointed out. Each reference as a whole should be reviewed in responding to the rejection, since other sections of the same reference and/or various combination of the cited references may be relied on in future rejection(s) in view of amendment(s).

All recited limitations in the instant claims have been meet by the rejections as

set forth above.

Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (703) 308-2542. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (703)-308-1146.

The facsimile phone numbers are (703) 872-9310 (non-final Official Paper only), (703) 872-9311 (after-final Official Paper only), and (703) 305-7719 (Unofficial Paper only). When filing a FAX in Technology Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communication with the PTO that are not for entry into the file of the application. This will expedite processing of your papers.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.

[Signature]
SIKYIN IP
PRIMARY EXAMINER
ART UNIT 1742

S. Ip
December 16, 2002